

SEPARATION SYSTEM, COMPONENTS OF A SEPARATION SYSTEM AND METHODS OF MAKING AND USING THEM

ABSTRACT OF THE DISCLOSURE

Permeable polymeric monolithic materials are prepared in a column casing. In one embodiment, the permeable polymeric monolithic materials are polymerized while pressure is applied through a piston having a smooth piston head in contact with the polymerization mixture. The pressure eliminates wall effect and changes the structure in the column. Similarly, some columns that have a tendency to swell in the presence of aqueous solutions and pressurized while the solution is applied to prevent swelling and wall effect. This procedure also changes the structure in the column. The size of the separation effective openings can be controlled by the amount of the pressure and pores eliminated. Uniformity in the direction flow is improved by controlling polymerization with radiation rather than with conducted heat.